Module 3 – Similarity

Dilation - (*Dilation*,D, is a transformation of the plane with center O and scale factor r ($r > 0$). If $D(O) = O$ and if $P \neq O$, then the point $D(P)$, to be denoted by Q, is the point on the ray $\overrightarrow{OP}$ so that $|OQ| = r|OP|$. If the scale factor $r \neq 1$, then a dilation in the coordinate plane is a transformation that shrinks or magnifies a figure by multiplying each coordinate of the figure by the scale factor.

Similar figures - Two figures in the plane are *similar* if there exists a similarity transformation taking one figure to the other.

Similar transformation - A *similarity transformation*, or *similarity*, is a composition of a finite number of basic rigid motions or dilations. The scale factor of a similarity transformation is the product of the scale factors of the dilations in the composition; if there are no dilations in the composition, the scale factor is defined to be 1.

Similarity - A *similarity* is an example of a transformation.